

## CLAIMS

1. A diagnostic method comprising outputting a Noise-Vocoded Speech Sound signal that is obtained by dividing at least one portion of a sound signal into a frequency band signal and subjecting the frequency band signal to noise, receiving a response of a patient, and diagnosing a disease of the patient based on the response.
2. A diagnostic method comprising outputting a Noise-Vocoded Speech Sound signal that is obtained by dividing at least one portion of a sound signal into a plurality of frequency band signals and subjecting the frequency band signals to noise, receiving a response of a patient, and diagnosing a disease of the patient based on the response.
- 15 3. The diagnostic method according to claim 1 or 2, wherein a disease is estimated with reference to disease database, based on information corresponding to the output Noise Vocoded Speech Sound signal and the response.
- 20 4. The diagnostic method according to claim 1 or 3, wherein the Noise-Vocoded Speech Sound signal in which a component of a sound source signal is subjected to noise is generated by:
  - extracting a frequency band signal with a predetermined frequency band from at least one portion of the sound source signal by a first band filtering procedure having a plurality of band filtering procedures;
  - extracting an amplitude envelope of each frequency band

signal by an envelope extracting procedure;  
generating a frequency band noise signal corresponding to  
the predetermined frequency band from a noise source signal by a  
second band filtering procedure having a plurality of band  
filtering procedures;  
multiplying the frequency band signal by the frequency  
band noise signal in a multiplying procedure; and  
accumulating outputs obtained by the multiplying  
procedure in an adding procedure.

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5. The diagnostic method according to any one of claims 1 to 3, wherein  
at least one of a number of the band filtering procedures for  
division into frequency band signals and a frequency of a frequency band  
boundary can be changed, at least depending on the language.

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6. The diagnostic method according to any one of claims 1 to 3, wherein  
at least one of a number of the band filtering procedures for  
division into frequency band signals and a frequency of a frequency band  
boundary can be changed through automatic language recognition.

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7. The diagnostic method according to any one of claims 1 to 6,  
comprising a sound signal extracting procedure for extracting only a  
sound component from a sound signal, wherein the Noise Vocoded Speech  
Sound signal is obtained by converting at least one portion of the  
25 extracted sound component to a Noise Vocoded Speech Sound signal.

8. A diagnostic device for executing the method according to any one of

claims 1 to 7.

9. A program for letting a computer execute:

a step of outputting a Noise-Vocoded Speech Sound signal that is  
5 obtained by dividing at least one portion of a sound signal into a  
frequency band signal and subjecting the frequency band signal to noise,  
a step of receiving a response of a patient, and  
a step of diagnosing a disease of the patient based on the  
response.

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10. A program for letting a computer execute:

a step of outputting a Noise-Vocoded Speech Sound signal that is  
obtained by dividing at least one portion of a sound signal into a  
plurality of frequency band signals and subjecting the frequency band  
15 signals to noise,  
a step of receiving a response of a patient, and  
a step of diagnosing a disease of the patient based on the  
response.